

Abstract

The invention relates to a scratchproof, temperature-stable  
5 protective layer, in particular a scratch-resistant  
protective layer for cooking hobs, and to processes and an  
apparatus for producing these protective layers.

The protective layer includes at least one hard-material  
10 layer which comprises a functional layer formed from a metal  
oxide and/or metal nitride and/or metal carbide and/or metal  
oxynitride and/or metal carbonitride and/or metal  
oxycarbonitride, preferably from yttrium-zirconium oxide, the  
functional layer being interrupted by very thin interlayers,  
15 preferably formed from silicon oxide, silicon nitride or  
titanium-aluminum oxide, so that the functional layer has a  
morphologically dense columnar structure that grows  
substantially perpendicular to the body surface. Economic  
production of layers of this type is achieved in particular  
20 by means of a magnetron sputtering process and a  
corresponding arrangement, with the tendency of the columnar  
structures to widen out being reduced by targeted  
interruption of the growth of the functional layers.